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United States Department of Agriculture,

BUREAU OF ANIMAL INDUSTRY.

JOHN R. MOHLER, CHIEF OF BUREAU.

SERVICE AND REGULATORY ANNOUNCEMENTS.

DECEMBER, 1917.

[This publication is issued monthly for the dissemination of information, instructions, rulings, etc., concerning the work of the Bureau of Animal Industry. Free distribution is limited to persons in the service of the bureau, establishments at which the Federal meat inspection is conducted, public officers whose duties make it desirable for them to have such information, and journals especially concerned. Others desiring copies may obtain them from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents each, or 50 cents a year. A supply will be sent to each official in charge of a station or branch of the bureau service, who should promptly distribute copies to members of his force. A file should be kept at each station for reference.]

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CHANGES IN DIRECTORY.

Meat Inspection Inaugurated.

- *352. Hansen Packing Co., P. O. box 1414, Butte, Mont.
- 936. The William Davies Co. (Ltd.), Fortieth Street and Normal Avenue, Chicago, Ill.
- *105. A. D. Davis Packing Co., Mobile, Ala.
- *790. C. Swanston & Son, North Sacramento, Cal. (mail, 306 Nicolaus Building, Eighth and K Streets).

Meat Inspection Withdrawn.

- 107. Paul Jourdain (Inc.), Dunellen, N. J.
- 986. Elmore Live Stock Co., P. O. box 43, Peoria, Ill.
- 20-M. Wilson & Co., 138 North Delaware Avenue, Philadelphia, Pa.
- 560. Anton Haas Pickling Works, Upper Levee, St. Paul, Minn.

* Conducts slaughtering.

Stations Added.

Butte, Mont., meat inspection, Dr. J. E. Ewers, care Hansen Packing Co., P. O. box 1414.

Urbana, Ill., hog-cholera control, Dr. J. W. Logan, care College of Agriculture.

Morgantown, W. Va., hog-cholera control, Dr. H. H. Fairbank, care West Virginia University, Extension Division.

Springfield, Ill., hog-cholera control, Dr. James McDonald, care State Veterinarian, State House.

Sacramento, Cal. (substation of San Francisco, Cal.).

Madison, Wis., hog-cholera control, Dr. J. T. Purcell, care Department of Agriculture, Capitol Building, Madison, Wis.

Stations Discontinued.

South St. Paul, Minn., inspection of plants manufacturing viruses, serums, toxins, etc., Dr. E. J. Calph.

Changes in Names of Establishments.

925. Central Iowa Packing & Provision Co., Elm and Second Streets, Atlantic, Iowa, instead of Central Iowa Poultry & Egg Co.

229. V. W. Joyner & Co., Smithfield, Va., instead of V. W. Joyner.

649. The Wm. Schluderberg & Son Co., Bank and Third Streets, Highlandtown, Baltimore, Md., instead of Wm. Schluderberg & Son.

317. Adolf Gobel (Inc.), Morgan Avenue and Rock Street, Brooklyn, N. Y., instead of Adolf Gobel.

Changes of Officials in Charge.

Little Rock, Ark., Dr. Marvin Gregory instead of Dr. A. E. Wight.

Wheeling, W. Va., Dr. J. S. Kelly instead of Dr. C. L. Norris.

Fort Worth, Tex., Dr. C. L. Norris instead of Dr. A. O. Lundell.

South St. Joseph, Mo., Dr. A. O. Lundell instead of Dr. M. O. Anderson.

South St. Paul, Minn., Dr. M. O. Anderson instead of Dr. F. D. Ketchum.

Wichita, Kans., Dr. F. D. Ketchum instead of Dr. J. S. Kelly.

Indianapolis, Ind., Dr. C. H. Hays instead of Dr. R. N. Mead.

Indianapolis, Ind., Dr. J. E. Gibson instead of Dr. H. E. Smith.

Changes in Addresses of Officials in Charge.

Dr. Frank D. Owen, P. O. box 615, Raleigh, N. C., instead of care State Veterinarian.

Dr. W. M. MacKellar, rooms 526 and 528 Federal Building, Atlanta, Ga., instead of 211-213 Federal Building, Atlanta, Ga.

NOTICES REGARDING MEAT INSPECTION.**USE OF BICHLORID OF MERCURY IN OFFICIAL ESTABLISHMENTS DISCONTINUED.**

Referring to paragraph (f), section 5, regulation 7, B. A. I. Order 211, relative to the disinfecting of hands and instruments used in dressing diseased carcasses, the use of such odorless poisons as bichlorid of mercury in official establishments should be discontinued under the present conditions, and inspectors should see that these poisons are removed from the establishments. Hot water containing approximately 1 per cent of sodium carbonate (sal soda) should be used for disinfecting all instruments. For disinfecting hands the establishment should supply a liquid antiseptic soap.

CLOSE SUPERVISION TO INSURE DESTRUCTION OF TRICHINAE AND PROPER STERILIZATION.

The bureau has supplied to all stations special thermometers for making temperature tests of meats, and it is desired that inspectors shall closely supervise the handling of all meat and products of a kind prepared customarily to be eaten without cooking,

which contains any muscle tissue of pork, to insure the destruction of trichinæ. It is also important that all carcasses and parts passed for sterilization which are not rendered into lard or tallow and which are utilized for food purposes shall be sterilized by heating so that all portions of the meat are brought to a temperature of 170° F. and maintained at this temperature for not less than 30 minutes.

On account of the different methods of cooking and the various weights of products it is impracticable to specify the cooking necessary to insure that all parts of the meats are heated to the minimum temperature for the required time. Inspectors will make the necessary tests to determine the facts and be guided accordingly.

PREPARATION OF PORK PRODUCTS CUSTOMARILY EATEN WITHOUT COOKING.

The notices entitled "Refrigerated Pork for Summer Sausage," Service and Regulatory Announcements, September, 1914, pages 122-123; "Methods to be Followed in the Preparation of Pork Products Customarily Eaten Without Cooking," Service and Regulatory Announcements, August, 1915, pages 95-96; "Modification of Method of Preparing Pork Hams Customarily Eaten Without Cooking," Service and Regulatory Announcements, March, 1916, pages 22-23; "Preparation of Sausage Containing Pork Customarily Eaten Without Cooking," Service and Regulatory Announcements, October, 1916, pages 89-90, and "Preparation of Pork Products Customarily Eaten Without Cooking," Service and Regulatory Announcements, October, 1917, pages 107-108, are canceled.

In accordance with the provisions of paragraph 4 of section 7, regulation 18, B. A. I. Order 211, articles of kinds prepared customarily to be eaten without cooking, if they contain any muscle tissue of pork that has not been subjected to a temperature sufficient to destroy all live trichinæ, shall be prepared in conformity to one of the following methods:

Curing Methods.

SAUSAGE. *Method No. 1.*—The sausage meat shall be ground or chopped into pieces not exceeding three-fourths of an inch in diameter. A dry-curing mixture containing not less than 3½ pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After stuffing, the sausage shall be held in a drying room not less than 20 days at a temperature not lower than 45° F., provided that in the case of sausage of the variety known as pepperoni, if stuffed in hog or sheep casings not exceeding 1½ inches in diameter measured at the time of stuffing, the period of drying may be reduced to 15 days.

Method No. 2.—The sausage meat shall be ground or chopped into pieces not exceeding three-fourths of an inch in diameter. A dry-curing mixture containing not less than 3½ pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After stuffing, the sausage shall be smoked not less than 40 hours at a temperature not lower than 80° F., and finally held in a drying room for a period of not less than 10 days at a temperature not lower than 45° F.

Method No. 3.—The sausage meat shall be ground or chopped into pieces not exceeding three-fourths of an inch in diameter. A dry-curing mixture containing not less than 3½ pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After admixture with the salt and other curing materials, and before stuffing, the ground or chopped sausage meat shall be held at a temperature not lower than 34° F. for not less than 36 hours. After stuffing, the sausage shall be held at a temperature not lower than 34° F. for an additional period of time sufficient to make a total of not less than 144 hours, or 6 days, from the time the meat was ground or chopped and the curing materials added. Finally, the sausage shall be smoked for not less than 12 hours. The minimum tem-

perature of the smokehouse during this period at no time shall be lower than 90° F.; and for 4 consecutive hours of this period the smokehouse shall be maintained at a temperature not lower than 128° F. The temperature of 128° F. shall be attained gradually, not less than 4 hours being occupied in raising the temperature, after the sausage has been placed in the smokehouse, from 90° to 128° F. The smokehouse shall be provided with an automatic recording thermometer that has the approval of the inspector in charge. Inspectors in charge are authorized to approve for use in sausage smokehouses such automatic recording thermometers as are found to give satisfactory service and during such time as they continue to give satisfactory service. Close supervision should be exercised over these thermometers, in order that there may be no question as to their accuracy at any time. They should be compared at frequent intervals with thermometers of known reliability. Whenever it is found that a thermometer reads higher than the actual temperature, that its clockwork runs too fast, that it fails to give a legible record, or that it has any other important defect, its use is to be discontinued until it has been satisfactorily adjusted. In locating these thermometers precautions should be taken to place them in the coolest portion of the smokehouse, in order that there may be no doubt that all of the sausages have been exposed to the required temperature.

HAMS. *Method No. 1.*—The hams shall be cured by a dry-curing process not less than 40 days at a temperature not lower than 36° F. The hams shall be laid down in salt, not less than 4 pounds to each hundredweight of hams, the salt being applied in a thorough manner to the lean meat of each ham. When placed in cure the hams may be pumped with pickle if desired. At least once during the curing process the hams shall be overhauled and additional salt applied, if necessary, so that the lean meat of each ham is thoroughly covered.

After removal from cure the hams may be soaked in water at a temperature not higher than 70° F. for not more than 15 hours, during which time the water may be changed once; but they shall not be subjected to any other treatment designed to remove salt from the meat, except that superficial washing may be allowed. The hams shall finally be pale dried or smoked not less than 10 days at a temperature not lower than 95° F.

Method No. 2.—The hams shall be cured by a dry-curing process at a temperature not lower than 36° F. for a period of not less than 3 days for each pound of weight (green) of the individual hams, calculating the time of cure of each lot of hams placed in cure upon a basis of the weight of the heaviest ham of the lot. Hams cured by this method before they are placed in cure shall be injected with pickle containing not less than 25 per cent of salt, about 4 ounces of the solution being injected into the shank and a like quantity along the flank side of the body bone. The hams shall be laid down in salt, not less than 4 pounds of salt to each hundredweight of hams, the salt being applied in a thorough manner to the lean meat of each ham. At least once during the curing process the hams shall be overhauled and additional salt applied, if necessary, so that the lean meat of each ham is thoroughly covered. After removal from cure the hams may be soaked in water at a temperature not higher than 70° F. for not more than 4 hours, but shall not be subjected to any other treatment designed to remove salt from the meat, except that superficial washing may be allowed. The hams shall then be pale dried or smoked not less than 48 hours at a temperature not lower than 80° F. and finally shall be held in a drying room not less than 20 days at a temperature not lower than 45° F.

CAPACOLA (CAPICOLA, CAPOCOLLO).—Boneless pork butts for capacola shall be cured in a dry-curing mixture containing not less than 4½ pounds of salt per hundred-weight of meat for a period of not less than 25 days at a temperature not lower than 36° F. If the curing mixture is applied to the butts by the process known as churn-

ing a small quantity of pickle may be added. During the curing period the butts may be overhauled according to any of the usual processes of overhauling, including the addition of pickle or dry salt if desired. The butts shall not be subjected during or after curing to any treatment designed to remove salt from the meat, except that superficial washing may be allowed. After stuffing, the product shall be smoked for a period of not less than 30 hours at a temperature not lower than 80° F., and shall finally be held in a drying room not less than 20 days at a temperature not lower than 45° F.

COPPA.—Boneless pork butts for coppa shall be cured in a dry-curing mixture containing not less than 4½ pounds of salt per hundredweight of meat for a period of not less than 18 days at a temperature not lower than 36° F. If the curing mixture is applied to the butts by the process known as churning a small quantity of pickle may be added. During the curing period the butts may be overhauled according to any of the usual processes of overhauling, including the addition of pickle or dry salt if desired. The butts shall not be subjected during or after curing to any treatment designed to remove salt from the meat, except that superficial washing may be allowed. After stuffing, the product shall be held in a drying room not less than 35 days at a temperature not lower than 45° F.

Refrigeration Method.

As an alternative to the methods prescribed above any customary method of preparation may be employed provided the pork or the article of which it is an ingredient is subjected to refrigeration not less than 20 days at a temperature not higher than 5° F.

During the period of refrigeration the pork shall be kept separate from other meat in rooms or compartment equipped for secure locking and be held under bureau lock. At such other times until the articles containing such pork are prepared in their final form the pork and articles shall be under close supervision.

It is essential that inspectors be assured by their own observations and records that the required temperature is maintained for the period of time specified. The thermometers used for indicating temperatures shall be placed in the freezers at or above the highest level at which the pork under refrigeration is stored. The establishment records of temperatures shall be checked and independent readings of the thermometers made and recorded by inspectors sufficiently often to make sure that the required temperature is maintained. The accuracy of the establishment thermometers shall be insured by comparison with standardized thermometers provided by the bureau.

If, after pork has been refrigerated as above specified, it is desired to transfer it to another official establishment at the same or at a different station for use in the preparation of articles (such as summer sausage) of a kind prepared customarily to be eaten without cooking, the product shall be transferred either in closed containers or else in cars or wagons containing no other meat. Closed containers, such as boxes, should be carefully sealed with Brook's metal numbered seals, and such containers as tierces, barrels, and kegs shall be sealed with sealing wax impressed with the No. 3 bureau brand, in accordance with the instructions in Service and Regulatory Announcements for October, 1914, page 135, under the caption "Sealing boxes, barrels, etc., containing certain meats." Cars and wagons used for transferring such product, if it is not in closed and sealed containers, shall be sealed with the regular bureau self-locking seals. When containers, such as boxes, barrels, etc., are used they shall not only be sealed but shall be plainly and conspicuously marked with a label or stencil furnished by the establishment reading as follows: "Pork Product 5° 20 Days Refrigeration." For each consignment there shall be promptly issued and forwarded to the inspector in charge at destination a copy of M. I. Form 109-F or M. I. Form 109-C, appropriately changed to show the character of the container and that the contents are

"pork product 5° 20 days' refrigeration." When the M. I. Form 109-F is issued, the duplicate copy should be forwarded to the Washington office.

Upon arrival at destination such consignments shall be unloaded and handled under bureau supervision and be kept separate from other meats and under close supervision as above indicated until the articles containing the pork are prepared in their final form.

Satisfactory rooms or compartments for refrigerating may be furnished by complete and secure separation of portions of freezers by the use of woven wire.

Each official station shall maintain for each establishment a record of the amount of pork by cuts or weight so refrigerated and in the course of preparation, as well as that shipped to and received from other official establishments, and a record of the bureau seals used.

Heated Products.

The methods of preparation described above do not apply in the case of products that contain no muscle tissue of pork except that which either before or after its inclusion in the product has been subjected to heat so that all portions attain a temperature not lower than 137° F.

ANIMALS SLAUGHTERED UNDER FEDERAL MEAT INSPECTION, NOVEMBER, 1917.

Station.	Cattle.	Calves.	Sheep.	Goats.	Swine.
Chicago.....	254,497	40,974	242,822	3,490	565,031
Fort Worth.....	70,743	53,817	5,788	2,689	50,446
Kansas City.....	162,989	34,540	45,220	8,289	187,021
National Stock Yards.....	73,001	20,124	17,702	4,051	126,969
Omaha.....	96,030	8,123	85,114	192	88,695
St. Louis.....	23,111	3,252	3,663	656	96,344
Sioux City.....	27,614	1,591	19,477	3	90,730
South St. Joseph.....	42,571	5,241	24,274	71	129,295
All other establishments.....	348,240	113,248	319,091	3,391	1,708,296
Total: November, 1917.....	1,098,796	280,910	763,781	22,835	3,042,827
November, 1916.....	971,801	217,370	1,120,852	22,143	4,770,913
11 months ending November, 1917.....	9,347,512	2,926,791	8,536,195	149,430	30,187,105
11 months ending November, 1916.....	7,466,073	2,182,870	10,908,256	189,020	37,816,661

IMPORTS OF FOOD ANIMALS AND OF MEATS AND MEAT FOOD PRODUCTS.

The statements following show the imports of food animals and of meats and meat food products inspected by the Bureau of Animal Industry during November, 1917, with figures for other periods for comparison.

Imports of food animals.

Country of export.	Cattle.	Swine.	Sheep.	Goats.
Mexico.....	10,297	6,390	1,235
Canada.....	31,303	3,587	23,652	5
Great Britain.....	94	290
Total: November, 1917.....	41,094	3,587	30,332	1,240
November, 1916.....	46,499	118	13,317	2,714
11 months ending November, 1917.....	321,148	14,025	179,681	21,126
11 months ending November, 1916.....	205,192	2,342	117,112	32,109

Imports of meats and meat food products.

Country of export.	Fresh and refrigerated.		Canned and cured.	Other products.	Total weight.
	Beef.	Other.			
Argentina.....			Pounds.	Pounds.	Pounds.
Canada.....	5,942,768	421,770	473,988	3,489,782	3,963,770
Uruguay.....			147,612	19,768	6,531,918
Other countries.....			835,435	290,978	1,126,413
			5,971	907	6,878
Total: November, 1917.....	5,942,768	421,770	1,463,006	3,801,435	11,628,979
November, 1916.....	1,563,301	250,048	92,790	129,730	2,035,809
11 months ending November, 1917.....	16,014,853	9,742,531	8,559,447	7,916,775	42,233,006
11 months ending November, 1916.....	41,263,010	16,867,566	1,588,326	971,051	60,089,953

Condemned in November, 1917: Beef, 465,987 pounds; pork, 132 pounds; total, 466,119 pounds. Refused entry: Beef, 117,120 pounds.

FOREIGN OFFICIALS AUTHORIZED TO SIGN INSPECTION CERTIFICATES FOR MEAT AND PRODUCTS FOR IMPORTATION INTO THE UNITED STATES.

The following are additional names, addresses, and facsimile signatures of foreign national Government officials authorized to sign and issue certificates of inspection for meat and meat-food products offered for importation into the United States:

Country, name, and address.	Signature.
Canada.	
A. Compton-Lundie, Charlottetown, P. E. I.	<i>A. Compton-Lundie.</i>
W. L. Caron, 711 Boyd Building, Winnipeg, Manitoba.	<i>W. L. Caron</i>

INSPECTION AND TESTING OF ANIMALS FOR CANADA.

The following changes have been made in the list of practicing veterinarians registered by the bureau and authorized to inspect and test with mallein horses, mules, and asses intended for export to Canada:

Names Added to List.

Dr. F. Keselring, Great Falls, Mont.
Dr. R. H. Kingston, New York, N. Y.

TEXAS-FEVER QUARANTINE—REVISED LIST OF PLACES TO WHICH SOUTHERN CATTLE MAY BE SHIPPED FOR IMMEDIATE SLAUGHTER.

State and Federal permission has been granted for the shipment of southern cattle for immediate slaughter to the following-named places:

DISTRICT OF COLUMBIA: Benning Union Stock Yards.

FLORIDA: Jacksonville, Interstate Stock Yard Co. (Armour & Co.); Jacksonville Cattle Co.

ILLINOIS: *Cairo*, E. Bucher Packing Co.; *Chicago*, Union Stock Yards Co.; *East St. Louis*, East Side Packing Co.; *National Stock Yards*, National Stock Yards Co.; *Wilson Provision Co.*; *Springfield*, Franz Bros. Packing Co.

INDIANA: *Indianapolis*, Brown Bros., Indianapolis Union Stock Yards Co., Kingan & Co., The Indianapolis Abattoir Co.; *Muncie*, Kuhner Packing Co.

IOWA: *Ottumwa*, John Morrell & Co.; *Sioux City*, The Cudahy Packing Co.

KANSAS: *Frontenac*, Menghini Bros. Packing Co.; *Kansas City*, Kansas City Stock Yards Co.; *Pittsburg*, Hull & Dillon Packing Co.; *Wichita*, Wichita Union Stock Yards Co.

KENTUCKY: *Louisville*, Bourbon Stock Yards Co.

LOUISIANA: *New Orleans*, Crescent City Stock Yards & Slaughter House Co., New Orleans Butchers Cooperative Abattoir Association; *Shreveport*, Shreveport Packing Co.

MARYLAND: *Baltimore*, Union Stock Yards.

MASSACHUSETTS: *Brighton*, Brighton Abattoir Co.; *Somerville*, New England Dressed Meat & Wool Co., Sturtevant & Haley Beef & Supply Co.

MICHIGAN: *Detroit*, Hammond, Standish & Co., W. J. Kamman, Kamman Beef Co., Mason Beef Co., Michigan Beef Co., Michigan Central Stock Yards Co., Newton Beef Co., Parker-Webb & Co., Sullivan Packing Co., W. B. Thompson.

MISSISSIPPI: *Natchez*, Mississippi Packing Co.

MISSOURI: *Kansas City*, Kansas City Stock Yards Co.; *St. Louis*, Carondelet Packing Co., Independent Stock Yards Co., St. Louis Independent Packing Co., Swift & Co.; *Sedalia*, Stephenson Packing Co.; *South St. Joseph*, St. Joseph Stock Yards Co., Freund Packing Co.

NEBRASKA: *South Omaha*, Union Stock Yards Co.

NEW JERSEY: *Camden*, D. D. Helm; *Jersey City* (Harsimus) Armour & Co.; *Newark*, (Kearny), Swift & Co.

NEW YORK: *Buffalo*, East Buffalo Stock Yards Co., Jacob Dold Packing Co., C. Klinck Packing Co.; *New York*, Armour & Co., Moe Frank, New York Butchers' Dressed Meat Co., Joseph Stern & Sons, Strauss & Adler, Wilson & Co., Swift & Co., United Dressed Beef Co.

NORTH CAROLINA: *Wilmington*, San Souci Abattoir Co.

OHIO: *Ashtabula*, F. C. Gerald; *Cincinnati*, Cincinnati Abattoir Co.; *Cleveland*, Blumenstock Reid Co., Cleveland Provision Co., Nick Davis, John Deobald, Eisenman Bros., J. J. Flick Pressed Beef Co., Hartman Provision Co., Hughes Provision Co., Koblenzer Bros., Lake Erie Provision Co., Long Dressed Beef Co., Ohio Provision Co., Retail Butchers' Protective Association, Teufel Bros., Theurer-Norton Provision Co., Henry Walcher, Webb Bros.; *West Mentor*, F. E. Presley; *West Toledo*, N. Rassel Sons Co., Stautzenbach, Bowers & Taylor.

OKLAHOMA: *Oklahoma*, Oklahoma National Stock Yards.

PENNSYLVANIA: *Allentown*, Arbogast & Bastian Co.; *Altoona*, United Home Dressed Meat Co.; *Butler*, Butler Beef & Provision Co.; *Chester*, John J. Buckley Co.; *Erie*, Hiabach Bros., Schaffner Bros.; *Johnstown*, Armour & Co.; *Mount Carmel*, L. W. Weissinger & Bros.; *Philadelphia*, West Philadelphia Stock Yards Co.; *Philipsburg*, Philipsburg Beef Co.; *Pittsburgh*, Armour & Co., Dunlevy Packing Co., Union Stock Yards Co.; *Punxsutawney*, Punxsutawney Beef & Provision Co.; *Reading*, Reading Abattoir Co.; *Scranton*, Frank Carr, Stowers Pork Packing & Provision Co.; *Shamokin*, Croninger Packing Co.

TEXAS: *Fort Worth*, Fort Worth Stock Yards Co.

VIRGINIA: *Danville*, A. Greenberg; *Norfolk*, Banks Bros., Union Stock Yards Co.; *Richmond*, Richmond Union Stock Yards, Valentine's Meat Juice Co.

WEST VIRGINIA: *Wheeling*, F. Schenck & Sons Co.

WISCONSIN: *Cudahy*, Cudahy Bros.; *Milwaukee*, Plankinton Packing Co.

REPORTS ON SERUM TREATMENT OF HOGS FOR SHIPMENT.

To inspectors in charge of yard inspection:

It is desired that copies of F. I. 12-A reports covering the treatment of hogs at stock yards with the preventive serum treatment for shipment as stockers or feeders, be furnished to bureau inspectors in charge of hog-cholera field work in States to which such hogs are destined. These reports should be addressed to "Bureau of Animal Industry Inspector in Charge of Hog Cholera Field Work" at the following places:

Alabama: Room 212, Agricultural Department, State Capitol, Montgomery.

Arkansas: Old State House, Little Rock.

California: Extension Division, State Agricultural College, Berkeley.

Delaware: P. O. box 259, Dover.

Florida: Extension Division, State Agricultural College, Gainesville.

Georgia: Care State Veterinarian, Atlanta.

Idaho: Twin Falls.

Illinois: Care State Veterinarian, Springfield.

Indiana: 307 Hume-Mansur Building, Indianapolis.

Iowa: 18 Federal Building, Des Moines.

Kansas: 22 Federal Building, Topeka.

Kentucky: 514 Custom House, Louisville.

Louisiana: Extension Division, State Agricultural College, Baton Rouge.

Maryland: College Park.

Michigan: Prudden Building, Lansing.

Missouri: Federal Building, Sedalia.

Montana: Care State Veterinarian, Helena.

Nebraska: University Farm, Lincoln.

New Mexico: State College.

North Carolina: Care State Veterinarian, Raleigh.

Ohio: Townsend Hall, O. S. N., Columbus.

Oklahoma: State House, Oklahoma.

South Dakota: Extension Division, State Agricultural College, Brookings.

South Carolina: Clemson College.

Tennessee: Care State Veterinarian, Nashville.

Texas: 506 Flatiron Building, Fort Worth.

Utah: Care State Veterinarian, Salt Lake City.

Virginia: P. O. box 465, Norfolk.

West Virginia: Extension Division, State Agricultural College, Morgantown.

Wisconsin: State Department of Agriculture, Madison.

LICENSES FOR VETERINARY BIOLOGICAL PRODUCTS, 1917.

The following alteration has been made in the list of licenses for the manufacture of veterinary biological products for the year 1917, under the act of Congress of March 4, 1913 (37 Stat., 832), and the regulations made thereunder (B. A. I. Order 196):

License No. 9, Lederle Antitoxin Laboratories, Pearl River, N. Y., issued March 1, 1917. The following product was added December 5, 1917: Anti-blackleg serum.

LICENSES AND PERMITS FOR VETERINARY BIOLOGICAL PRODUCTS, 1918.

Licenses for the manufacture and permits for the importation of veterinary biological products have been issued as follows for the year 1918, under the act of Congress of March 4, 1913 (37 Stat., 832), and the Regulations made thereunder (B. A. I. Order 196 and amendment):

Licenses for the manufacture of veterinary biological products, 1918.

License No.	Name and address of firm.	Products.
1	The National Vaccine and Antitoxin Institute, 1513 U Street, Washington, D. C.	Tetanus antitoxin; tuberculin.
2	The Eagle Biological and Supply Co., Third Street and Central Avenue, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
2-A	The Eagle Biological and Supply Co., 1835 Hickory Street, Oklahoma, Okla.	Anti-hog-cholera serum; hog-cholera virus.
3	II. K. Mulford Co., Glenolden, Pa.....	Anthrax vaccine; anti-hog-cholera serum; autogenous bacterin; blackleg aggrressin; blackleg vaccine; bovine abortus serovaccine; canine distemper serobacterin; colic bacterin; equine abortus bacterin (mixed); equine influenza bacterin; equine influenza serobacterin; hemorrhagic septicemia bacterin; hemorrhagic septicemia serovaccine; hog-cholera virus; mallein; polyvalent mixed bacterin; pyogenes scrobacterin; rabies vaccine; staphylo bacterin; strepto bacterin; tetanus antitoxin; tuberculin; white scours scrobacterin.
4	The Abbott Laboratories, 4753 Ravenswood Avenue, Chicago, Ill.	Autogenous bacterin; bacillus abortus bacterin; blackleg vaccine; canine-distemper antitoxin serum; canine-distemper bacterin; canine and feline mixed infection bacterin; hemorrhagic septicemia bacterin; poly bacterins; staphylo bacterin; streptococcus combined bacterin; strepto bacterin; streptococcus-mastitis bacterin; white scours bacterin.
5	Parke, Davis & Co., Atwater and McDouall Streets, Detroit, and Rochester, Mich.	Anthraxoids; anti-anthrax serum; anti-blackleg serum; anti-distemper serum, canine; anti-influenza serum; anti-streptococcal serum; anti-tetanic serum; blacklegoids; canine distemper vaccine; colon vaccine; equine influenza vaccine; germ-free blackleg vaccine; hemorrhagic septicemia vaccine; influenza-pneumo vaccine, equi, combined; mallein; mixed infection phylacogen; pneumonia phylacogen; staphylococcus-streptococcus vaccine combined, canine; staphylococcus vaccine combined; streptococcus-staphylococcus vaccine combined; streptococcus vaccine; tuberculin; white scours serum.
6	Pitman-Moore Co., Zionsville, Ind.....	Anti-hog-cholera serum; hog-cholera virus.
7	Mid-West Serum Co., Thirty-third and N Streets, Omaha, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
8	The Heyner Serum Co., 1873 F Street, Franklin, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
9	Lederle Antitoxin Laboratories, Middletown Road, Pearl River, N. Y.	Abortion vaccine; anti-anthrax serum; anthrax spore vaccine; anti-blackleg serum; anti-white-scours serum; blackleg filtrate; blackleg vaccine; canine distemper vaccine; colon vaccine; equine influenza vaccine; hemorrhagic septicemia vaccine; mallein; mixed bacterial vaccine; rabies vaccine; staphylococcus vaccine; streptococcus vaccine; tetanus antitoxin; tuberculin.
10	The Wichita and Oklahoma Serum Co., 1021 East Twenty-first Street, Wichita, Kans.	Anti-hog-cholera serum; hog-cholera virus.
11	Sioux Falls Serum Co., 2000 Wabash Avenue, Sioux Falls, S. Dak.	Anti-hog-cholera serum; hog-cholera virus.
12	The Royal Serum Co., Osage and Adams Streets, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
13	Beebe Laboratories (Inc.), 161-163 West Third Street and corner of Sherman and Exchange Streets, St. Paul, Minn.	Blackleg filtrate; blackleg vaccine; mallein; normal horse serum; tuberculin.
14	The Stock Yards Serum Co., 211 Central Avenue, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
21	Continental Serum Laboratories, Isette Avenue and Bidwell Street, Muscatine, Iowa.	Anti-hog-cholera serum; hog-cholera virus.
23	Missouri Valley Serum Co., 50 North Second Street, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
24	The Sihler Hog Cholera Serum Co., 208 Central Avenue and Central Avenue and Water Street, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.

Licenses for the manufacture of veterinary biological products, 1918—Continued.

License No.	Name and address of firm.	Products.
25	Inter State Vaccine Co., 58 Greystone Avenue, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
26	Kaw Valley Serum Co., Greystone Avenue and Perry Street, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
27	The Simonson Serum Farm, Hooper, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
30	Kansas Serum Co., corner Noon and Green Streets, Manhattan, Kans.	Anti-hog-cholera serum; hog-cholera virus.
32	Standard Serum Co., 11 South Second Street, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
34	Peters National Serum Co., South Second Street and Myers Avenue, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
37	Sioux City Serum Co., 1319 Bluff Road, Sioux City, Iowa.	Anti-hog-cholera serum; hog-cholera virus.
38	The Hueben Serum Co., First and Waverly Streets, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
39	Purity Biological Laboratories, Sioux City, Iowa.	Anti-hog-cholera serum; hog-cholera virus.
39-A	Purity Biological Laboratories, corner Chambers and Chicago Streets, Sioux City, Iowa.	Anti-blackleg serum; germ free blackleg vaccine.
40	Cedar Rapids Serum Co. (Inc.), 123 Twenty-third Avenue west, Cedar Rapids, Iowa.	Anti-hog-cholera serum; hog-cholera virus.
41	Kinsley Laboratories, 1426 Lydia Avenue, Kansas City, Mo.	Anti-abortion bacterin; anti-influenza bacterin; autogenous bacterin; bacterin for pasteurellosis in swine; canine distemper bacterin; colon bacterin; hemorrhagic septicemic bacterin; polyvalent bacterin; pneumoniae arthritis bacterin; pneumo bacterin; staphylococcus bacterin; strepto bacterin; swine plague bacterin.
45	C. H. Miner Serum Co., Red Cloud, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
48	Swine Breeders Pure Serum Co., Thorntown, Ind.	Anti-hog-cholera serum; hog-cholera virus.
49	S'ee Laboratories, Swiftwater, Pa.	Tetanus antitoxin.
52	The Cutter Laboratory, Fourth and Parker Streets, Berkeley, Cal.	Anti-hog-cholera serum; hog-cholera virus.
53	Nodaway Valley Serum Co., Skidmore, Mo.	Anti-hog-cholera serum; hog-cholera virus.
56	The Southwestern Serum Co., 308 East Twenty-first Street and Twenty-second Street and Lawrence Avenue, Wichita, Kans.	Anti-hog-cholera serum; hog-cholera virus.
58	Kentucky Agricultural Experiment Station, Lexington, Ky.	Botulinus antitoxin.
61	Guilford Serum Co., 18-20-22 North Second Street, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
63	Eli Lilly & Co., 210-250 East McCarty Street, Indianapolis, Ind.	Rabies virus; tetanus antitoxin.
67	Shefton Serum Co., Shelton, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
68	James McI. Phillips, 2057 North High Street, Columbus, Ohio.	Rabies vaccine.
69	Southern Serum Co., Springfield Road, West Plains, Mo.	Anti-hog-cholera serum; hog-cholera virus.
70	St. Joseph Veterinary Laboratories, 1502 Garfield Avenue, St. Joseph, Mo.	Anti-hog-cholera serum; hog-cholera virus.
71	Big O Serum Co., corner of Central and Water Streets, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.
72	Central Missouri Serum Co., Eastwood Avenue, Marshall, Mo.	Anti-hog-cholera serum; hog-cholera virus.
74	Ralston Serum Co., Seventy-seventh Street and Serum Avenue, Ralston, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
77	Corn Belt Serum Co., 215 Winstanley Avenue, East St. Louis, Ill.	Anti-hog-cholera serum; hog-cholera virus.
78	The Regents of the University of California, Sixty-sixth Avenue and Ray Street, Oakland, Cal.	Anti-hog-cholera serum; hog-cholera virus.
83	E. R. Squibb & Sons, Georges Road, New Brunswick, N. J.	Anti-equine influenza serum; anti-hog-cholera serum; anti-rabies virus; anti-streptococcal serum; canine distemper anti-serum; canine distemper vaccine; hog-cholera virus; mallein; tetanus antitoxin; tuberculin.
84	The Grain Belt Supply Co., 3215 L Street, Omaha, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
85	The Western Laboratories, Stockton, Cal.	Anti-hog-cholera serum; hog-cholera virus.
91	Gregory Farm Laboratory, White Hall, Ill.	Anti-hog-cholera serum; hog-cholera virus.
93	The Elmore Live Stock Co., Serum Department, Peoria, Ill.	Anti-hog-cholera serum; hog-cholera virus.
99	The Corn States Serum Co., Forty-fourth Avenue and U Street, South Side, Omaha, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
102	The Lathrop Serum Co., Lathrop, Mo.	Anti-hog-cholera serum; hog-cholera virus.
103	Fowler Serum Co., 335 North James Street and Second Street and Splitlog Avenue, Kansas City, Kans.	Anti-hog-cholera serum; hog-cholera virus.

Licenses for the manufacture of veterinary biological products, 1918—Continued.

License No.	Name and address of firm.	Products.
104	Swan-Myers Co., 219 North Senate Avenue, Indianapolis, Ind.	Abortion bacterin; bovine hemorrhagic septicemia bacterin; canine distemper bacterin (mixed); equine colic bacterin; equine influenza bacterin; equine influenza bacterin (mixed); equine pneumonia bacterin (mixed); equine staphylococcus aureus and albus bacterin; equine streptococcus-pyogenes bacterin; navel infection bacterin; polyvalent bacterin (mixed); swine plague bacterin; white scour bacterin (mixed).
107	The Jensen-Salsbury Laboratories (Inc.), 1320 Main Street, Kansas City, Mo. 520 West Pennsylvania	Abortion bacterin; anti-influenza bacterin; autogenous bacterin; blackleg vaccine; canine distemper bacterin; colic bacterin; hemorrhagic septicemia vaccine; mallein; mixed bacterin; mixed infection bacterin (swine); navel ill bacterin; pneumo bacterin; staphylococcus bacterin; streptococcus bacterin; streptococcus mastitis bacterin; swine plague bacterin; white scour bacterin.
108	The Universal Serum Co., 101 St. Clair Avenue, East St. Louis, Ill.	Anti-hog-cholera serum; hog-cholera virus.
110	American Serum Co., 2117 Leech Street, Sioux City, Iowa.	Anti-hog-cholera serum; hog-cholera virus.
111	Blue Cross Serum Company, Superior, Nebr.	Anti-hog-cholera serum; hog-cholera virus.
112	Fort Dodge Serum Co., Fort Dodge, Iowa...	Anti-hog-cholera serum; hog-cholera virus.
113	Bureau of Laboratories, Department of Health, New York City, foot East Sixteenth Street, New York, N. Y.	Mallein; tetanus antitoxin; tuberculin.
115	The Denver Hog Ranch Co., Anti-Hog-Cholera Serum Department, 5030 York Street, Denver, Colo.	Anti-hog-cholera serum; hog-cholera virus.
116	Ottumwa Serum Co., Ottumwa, Iowa.....	Anti-hog-cholera serum; hog-cholera virus.
117	The Kansas Blackleg Serum Co., Twenty-first Street and Little River, Wichita, Kans.	Germ-free blackleg vaccine.
119	The Gilliland Laboratories (Inc.), Willow Avenue, Ambler, Pa., and Marietta, Pa.	Anti-rabic vaccine; mallein; tetanus antitoxin; tuberculin.
120	The U. S. Blackleg Serum Co., 3500 West Tenth Street, Oklahoma, Okla.	Germ-free blackleg vaccine.
121	Peaks Germ Free Blackleg Aggressin Co., corner of Noon and Green Streets, Fairmont Addition, Manhattan, Kans.	Germ-free blackleg aggressin.
124	Anchor Serum Co., Stock Yards, South St. Joseph, Mo.	Anti-hog-cholera serum; hog-cholera virus.
125	Aurora Serum Co., Aurora, Ill.....	Anti-hog-cholera serum; hog-cholera virus.
126	Hamilton Chemical Co., Noblesville, Ind.	Anti-hog-cholera serum; hog-cholera virus.
127	Liberty Laboratories, Seventy-seventh and Serum Streets, Ralston, Nebr.	Anti-hog-cholera serum; hog-cholera virus.

Permit for importation of veterinary biological products, 1918.

Permit No.	Name of firm.	Products.
2	Pasteur Laboratories of America, 366-368 West Eleventh Street, New York City, N. Y.	Anthrax vaccine; anti-anthrax serum; anti-strangles serum; anti-streptococcal serum; anti-tetanic serum; blackleg serum; blackleg vaccine; canine distemper serum; fowl cholera serum; fowl cholera vaccine; mallein; tuberculin.

VIOLATIONS OF LAWS.

Fines and penalties were imposed in prosecutions for violation of regulatory laws, as reported to the bureau during the month of December, 1917, as follows:

Twenty-Eight-Hour Law.

Northern Pacific Railway Co., \$200 and \$20.44 costs.

Atchison, Topeka & Santa Fe Railway Co., \$200 and \$19.05 costs.

Delaware, Lackawanna & Western Railway Co., \$100 and \$32.47 costs.

Chicago, Milwaukee & St. Paul Railway Co. (2 cases), \$300.

New Central Railway Co., damages and costs of \$125.
 - Baltimore & Ohio Railway Co. (10 cases), \$1,500 and costs.
 Indianapolis Union Railway Co. (2 cases), \$200 and costs.
 Central of Georgia Railway Co., \$100 and \$5.15 costs.
 Louisville & Nashville Railway Co. (2 cases), \$200 and costs.
 Seaboard Airline Railway Co. (3 cases), \$300 and \$15.45 costs.
 Michigan Central Railway Co. (2 cases), \$200 and costs.
 Chicago, Burlington & Quincy Railway Co. (2 cases), \$300 and \$54.52 costs.
 Colorado & Southern Railway Co., \$200 and \$32.55 costs

Quarantine Laws.

Louisville & Nashville Railway Co. (15 cases), interstate movement of cattle in violation of the Texas fever regulations, \$1,600 and \$30.10 costs.

Louisiana & Arkansas Railway Co. (2 cases), interstate movement of cattle in violation of the Texas fever regulations, \$200.

Mobile & Ohio Railway Co. (2 cases), interstate movement of cattle in violation of the Texas fever regulations, \$200 and costs.

St. Louis, Iron Mountain & Southern Railway Co., interstate movement of cattle in violation of the Texas fever regulations, \$100 and \$21.77 costs.

Vicksburg, Shreveport & Pacific Railway Co. (2 cases), interstate movement of cattle in violation of the Texas fever regulations, \$200.

Louisiana Railway and Navigation Co., interstate movement of cattle in violation of the Texas fever regulations, \$100.

PUBLICATIONS IN DECEMBER.

[The bureau keeps no mailing list for sending publications to individual employees, but publications are sent in bulk to inspectors in charge of distribution to members of their forces. The number of copies varies with the subject or nature of the publication and the number and class of employees. For example, in the case of a publication on a veterinary subject, sufficient copies are sent for the veterinarians. Inspectors in charge will use their judgment and distribute publications to best advantage. Additional copies will be furnished on request so far as possible.]

Report of the Chief of the Bureau of Animal Industry [for the fiscal year 1917].
 Pp. 63.

Department Bulletin 593. Judging Sheep as a Subject of Instruction in Secondary Schools. By H. P. Barrows, specialist in agricultural education, States Relations Service, with the aid of the Bureau of Animal Industry. Pp. 31, figs. 23.

Department Bulletin 596. Feeding Dried Pressed Potatoes to Swine. By Frank G. Ashbrook, junior animal husbandman in swine feeding and breeding, and R. E. Gongwer, assistant in swine investigations, Animal Husbandry Division. Pp. 11, Pls. 2.

Department Bulletin 610. Fish Meal as a Feed for Swine. By Frank G. Ashbrook, junior animal husbandman, Animal Husbandry Division. Pp. 10.

Farmers' Bulletin 855. Homemade Silos. By Helmer Rabild and K. E. Parks, Dairy Division. Pp. 55, figs. 47.

Farmers' Bulletin 889. Back-Yard Poultry Keeping. By Rob R. Slocum, Animal Husbandry Division. Pp. 23, figs. 13.

Farmers' Bulletin 893. Breeds of Dairy Cattle. By H. P. Davis, dairy husbandman, Dairy Division. Pp. 35, figs. 19.

Farmers' Bulletin 906. The Self-Feeder for Hogs. By F. G. Ashbrook and R. E. Gongwer, Animal Husbandry Division. Pp. 12, figs. 8.

Farmers' Bulletin 913. Killing Hogs and Curing Pork. By F. G. Ashbrook and G. A. Anthony, Animal Husbandry Division. Pp. 40, figs. 22.

Office of the Secretary Circular 80. Disposal of City Garbage by Feeding to Hogs. By F. G. Ashbrook and J. D. Bebout, Animal Husbandry Division. Pp. 8, 1 diagram.

The Story of the Cattle Fever Tick. What Every Southern Child Should Know About Cattle Ticks. Pp. 31, figs. 28.

Life History of Ascaris Lumbricoides and Related Forms. By B. H. Ransom, chief, and W. D. Foster, junior zoologist, Zoological Division. Pp. 395-398. (Reprint from the Journal of Agricultural Research, Nov. 19, 1917.)

Influence of the Degree of Fatness of Cattle Upon Their Utilization of Feed. By Henry Prentiss Armsby, director, and J. August Fries, assistant director, Institute of Animal Nutrition of The Pennsylvania State College. Pp. 451-472, pl. 1, fig. 1. (Reprint from the Journal of Agricultural Research, Dec. 3, 1917.)

Amendment 1 to B. A. I. Order 255. To Prevent the Spread of Splenetic, Southern, or Texas Fever in Cattle. (Quarantines the counties of Bacon, Candler, and Evans in the State of Georgia.)

B. A. I. Order 256. Special Order Prescribing Methods for the Disinfection of Hides, Skins, Fleshings, Hide Cuttings, Parings, and Glue Stock, and Other Animal By-Products, Hay, Straw, Forage, or Similar Material Offered for Entry into the United States, and the Containers of Glue Stock, Bones, Hoofs, and Horns so Offered for Entry.

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